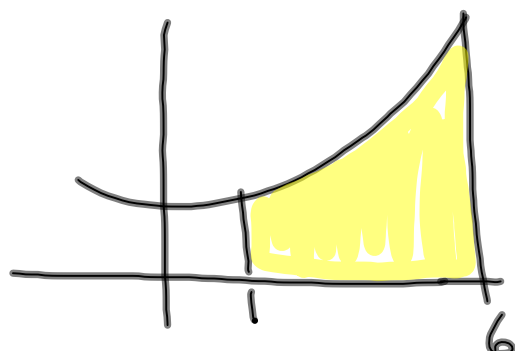


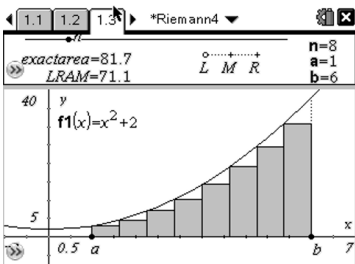
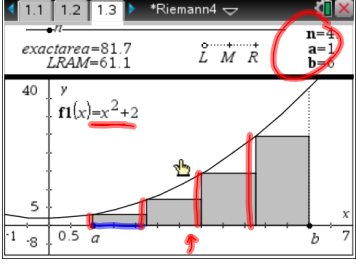
5.1a Estimating With Finite Sums

Find the area under the curve.

$$f(x) = x^2 + 2$$



Nov 8-7:30 PM

given

widths = $\Delta x = dx = \frac{b-a}{n} = \frac{6-1}{4} = \frac{5}{4} = 1.25$

heights

area:

#1 $f(1) = 3$

#2 $f(1+1.25) = 7.06$

#3 $f(1+2 \cdot 1.25) = 14.25$

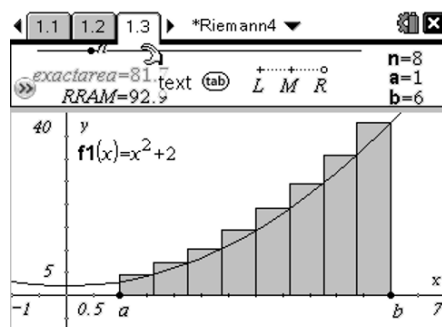
#4 $f(1+3 \cdot 1.25) = 24.56$

$$\text{LRAM} = \sum_{i=0}^{n-1} f(a + i \cdot dx) \cdot dx \quad | \quad dx = \frac{b-a}{n}$$

LRAM

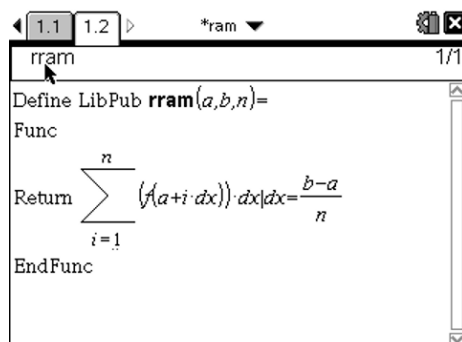
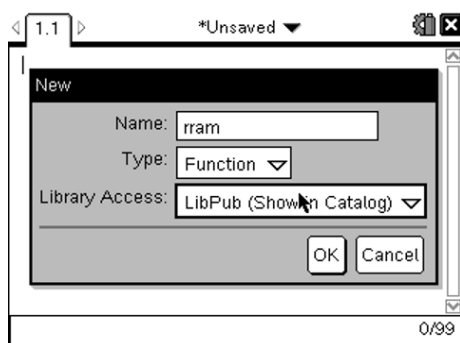
Nov 7-9:02 AM

Find an equation for the sum of the Right Hand Rectangles



Nov 8-7:50 PM

define an rram function



Save in mylib. Refresh libraries

Nov 8-8:15 PM

lram and mram

1.1

*ram

lram

0/1

Define LibPub lram(a,b,n)=

Func

Return $\sum_{i=0}^{n-1} (f(a+i \cdot dx)) \cdot dx \mid dx = \frac{b-a}{n}$

EndFunc

1.1 1.2

*ram

mram

0/1

Define LibPub mram(a,b,n)=

Func

Return $\sum_{i=0}^{n-1} \left(f\left(a + \frac{dx}{2} + i \cdot dx\right) \right) \cdot dx \mid dx = \frac{b-a}{n}$

EndFunc

Nov 8-8:59 PM

Example 2

1.1

*Unsaved

Define f(x)=x²·sin(x)

Done

| | |
|---------------------|---------|
| ram\lram(0,3,50.) | 5.81235 |
| ram\lram(0,3,100.) | 5.75701 |
| ram\mram(0,3,1000.) | 5.77667 |

4/99

Nov 8-8:58 PM